

b.) Remarks

Claim 1 has been amended to better reflect the salient features of the present invention.

In the Advisory Action, the Examiner states

Applicants have not provided literal support for these steps and what is accomplished by these steps is not found in the specification. Moreover, figurative support for these steps, wherein it results in “differentiation of an embryonic stem cell into a neural crest cell or a neural tube cell” cannot be found and appears inconsistent with the teachings of the present specification.

This rejection is addressed by the foregoing amendment. Specifically, for the Examiner’s convenience, the subject matter of amended claim 1 is discussed explicitly in Examples 1 and 14.

In that regard, in Example 1, antibodies against NCAM¹, against class III β tublin², against nestin³, against tyrosine hydroxylase⁴, against VAChT⁵, against GAD⁶, and against serotonin⁷ were used to immunostain colonies formed by coculturing ES cells EB5

¹ A typical neuron marker.

² A neuron-specific marker.

³ A neural precursor cell-specific marker.

⁴ A dopaminergic neuron marker.

⁵ A cholinergic neuron marker.

⁶ A GABAergic neuron marker.

⁷ A serotonergic neuron marker.

with PA6 cells. Therein, it was confirmed that, not only neural cells which express neuronal marker NCAM, but also neural cells which express markers specific to various kinds of neurons were formed.

In Example 14, antibodies against NCAM, against Pax-7⁸, and against AP-2⁹ were used to immunostain colonies formed by coculturing ES cells EB5 with PA6 cells in the absence of retinoic acid. Therein, it was confirmed that, not only neural cells which express neuronal marker NCAM, but also neural cells which express neural tube dorsal side marker Pax-7 and neural crest cells marker AP-2 were formed.

Entry hereof is earnestly solicited.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,

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⁸ A marker in neural tube dorsal side.

⁹ A marker of a neural crest cell.